AN ANALYSIS OF ENTRY-LEVEL FIREFIGHTER RECRUTING AND TESTING FOR THE FRY FIRE DISTRICT

EXECUTIVE DEVELOPMENT

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An applied research project submitted to the National Fire Academy
as part of the Executive Fire Officer Program

September 1999

ABSTRACT

This research project analyzed the Fry Fire District's (District's) recruiting and entry-level testing processes. The problem identified was that the District does not successfully recruit and hire female applicants for openings in the Operations Division. The purpose of the research project was to identify the cause of diversity deficiencies and potential legal liability and to provide recommendations to improve recruitment and hiring of female candidates in the Operations Division.

This research employed evaluative, historical and descriptive research to answer the following:

1. Is the District's firefighter recruitment and selection process discriminatory to female applicants?
2. Are there any segments of the selection process that create an adverse impact upon female applicants?
3. What are other fire service organizations doing to improve recruitment and selection of female applicants?

The procedures employed included a review of existing literature from various sources, online searches of various data bases, personal interviews and analysis of District hiring and testing records since 1989.

The results indicated that the District's recruiting efforts produced an insufficient number of female candidates and that the physical fitness evaluation tool created an adverse impact on those who did participate in the testing process. Personal interviews revealed that other jurisdictions successfully recruit female candidates by specifically targeting females in recruiting efforts. These agencies either made minor modifications to the Combat Challenge test or utilized other methods of task-based testing which accurately gauge a candidate's physical ability without creating adverse impact.

Research yielded the following recommendations:

1. Develop recruiting strategies which specifically target female candidates.
2. Modify Combat Challenge Test or replace with an appropriate task-based tool that accurately measures ability to perform minimum qualifications.
3. Conduct diversity training to facilitate integration of candidates once they are hired.
4. Set goals and evaluate outcomes on a regular basis.

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INTRODUCTION

The fact that the Fry Fire District (District) does not successfully recruit and hire female applicants for Operations Division openings is the problem addressed by this research. For purposes of this research "Operations" shall be defined as full or part-time employment involving emergency response activities or "line" positions.

The purpose of this paper is to identify the potential cause of diversity deficiencies and provide recommendations to improve the recruitment and retention of female candidates within the Operations Division. Evaluative, historical and descriptive research methods were used in this research to answer the following questions:

1. Is the District's firefighter recruitment and selection process discriminatory to female applicants?
2. Are there any segments of the selection process that create an adverse impact upon female applicants?
3. What are other fire service organizations doing to improve recruitment and selection of female applicants?

BACKGROUND AND SIGNIFICANCE

The District is an emergency services response organization that provides fire, emergency medical, rescue, hazardous materials, fire prevention, public education and training services. The District, a political subdivision of the State of Arizona located in Cochise County, was established in 1965, in accordance with Arizona Revised Statutes Title 48. District boundaries encompass an of area approximately 58 square miles and include the unincorporated areas surrounding the City of Sierra Vista. Ambulance service responsibility area includes 160 square miles of territory surrounding the City

of Sierra Vista. The District's close proximity to a major military installation provides an economically and socially diverse population base and work force which is currently not reflected in the District's employee census.

The FY 99/2000-employee census includes 31 full-time personnel and 12 part-time personnel. Twenty-five of the full-time and 12 of the part-time personnel are shift workers assigned to staff stations for emergency response within the Operations Division. Of these employees only one is female. It is important to note that she along with four other female candidates were hired prior to 1995. The FY 1994/95-employee census included 31 full-time and 12 part-time personnel in the Operations Division with a total of 4 female employees. Since the implementation of new entry-level testing procedures in 1995, no female applicant has successfully completed the screening process and three of the female employees either left the fire service or moved on to other employers. Current entry-level procedures include a written application, general knowledge aptitude test, task-based physical fitness test, training and evaluation period, and oral board interview. Entry-level positions are currently restricted to part-time operations personnel. All full-time positions are selected from part-time operations personnel and all other promotional opportunities are filled internally with the exception of the position of Fire Chief.

Diversity of personnel is an important consideration requiring attention from any executive regardless of private or public sector status. The term "diversity" refers to workforce differences in race, color, religion, sex, national origin, age, disability, sexual orientation, marital status, appearance, or anything that makes people different (Tallarigo, 1998). Teicher (1999) notes that twenty years ago it was perfectly acceptable for firefighters to be all white males. Today, fire stations are the setting for some of the fiercest and most visible battles concerning job discrimination. This topic was discussed on numerous occasions during the two-week Executive Development Course at the National Fire

Academy. Classmates from Boston and Gainesville represented departments who were among the more than 43 major fire departments nationwide under court order to diversify (Teicher, 1999). In addition to the possibility of court ordered diversity initiatives, fire service managers face the likelihood of gender-based discrimination claims. In a study conducted by Gilbert and Stead (1999), researchers found that serious work place diversity efforts resulted in increased female and minority applicant success ratios and decreased complaints and litigation involving discrimination claims. While the Fry Fire District has never defended against a hiring discrimination or disparate impact claim, the dearth of successful female candidates creates, at minimum, the appearance of impropriety.

While this student's group during the two-week Executive Development resident program at NFA chose to focus upon the physical fitness test utilized by the District as the exclusionary mechanism barring entry of female candidates (Grill, Iwanski, Mosack, Mores and Hershman, 1999), this individual assignment analyzes all phases of the recruiting and testing process to identify areas of potential liability and future improvement including the physical fitness test.

LITERATURE REVIEW

The District's employee recruitment and selection guidelines are attached in Appendix A. The focus of the literature review is to provide information concerning the potential impact of each segment and to provide background support regarding six major areas of concern as follows:

1. The need for diversity within the District and the fire service in general.
2. Recruiting and promotional practices in both public and private sector employment.
3. Written examination tools and their potential discriminatory nature.
4. Physical Fitness Testing procedures and the potential for discrimination.
5. Oral Board Interview Process.

6. Legal consequences of discriminatory employment practices.

Diversity

Miller (1991) anticipates that by the year 2005, white males will constitute only 38% of the available labor force. According to projections from the Bureau of Labor statistics, women will constitute nearly 48% (includes white and minority) of the available labor force by the year 2005 with the remaining 14% composed of non-white males (Konrad, 1990). Voluntary diversity programs in the corporate world are seen as a matter of competitive advantage. Blake and Cox (1991) found that a positive correlation existed between a diverse employee census and competitive advantage in the areas of cost, resource acquisition, marketing, creativity, problem solving and organizational flexibility. Cox and Smolinski (1994) further support this theory by suggesting that managing diversity results in higher productivity and increased profits. Gilbert and Stead (1999) note that a study conducted by the Equal Employment Opportunity Commission in 1993 of Standard and Poor 500 companies who ranked in the top fifth for Equal Employment Opportunity compliance enjoyed an average stock return of 18.3% where organizations in the lower fifth averaged a stock return of 7.9%. They also note that working environments that actively seek diversity among their work force decrease the number of negative stereotypes regarding women and the number of discrimination-related complaints by female employees. Their findings further suggest that a lack of diversity becomes a vicious cycle which breeds increased stereotypes and further intentional and unintentional barriers to entry.

The lack of diversity among public safety employers is well noted through several high profile litigation cases and court ordered diversity compliance programs. Many fire service organizations point an accusing finger at police departments such as Los Angeles, New York, and Boston for a logical location to place blame. However, Teicher (1999) notes that according to Steve Ralston of the

NAACP Legal Defense fund, historically fire departments are much worse and that when challenged were unable to show that tests utilized adequately measured the ability to be a firefighter.

Recruitment/Promotional Practices

Terpstra (1996) conducted a national survey which analyzed the most effective recruitment sources. On a 5-point evaluation scale with 5 representing an extremely good likelihood of candidate employment, existing employee referrals scored the highest with 3.84. Want ads and direct applications scored 3.05 and 2.86 respectively. Experts caution that utilizing only one or two methods of recruitment could have an adverse effect on protected classes (Cascio, 1991). Relying upon employee referrals as a major source of new hire applicants presents major challenges to EEO recruitment efforts. Bohlander, Sherman, Snell (1998) assert that:

> Negative factors associated with employee referrals include the possibility of inbreeding and the violation of EEO regulations. Since employees and their referrals tend to have similar backgrounds, employers who rely heavily on employee referrals to fill job openings may intentionally or unintentionally screen out, and thereby discriminate against, protected classes. (p. 145)

Written Examinations

Kutscher (1992) estimates that two and a half million functionally illiterate Americans enter the workforce each year. This means that candidates are unable to read, write, calculate, or solve problems at a level that enables them to perform even the simplest technical tasks.

Many civil service tests create disparate impact on minorities and courts have ordered that tests be revised to measure only those skills needed to do the job (Teicher, 1999). Nationally standardized tests measuring general aptitude and supported by extensive research withstand close scrutiny as

demonstrated by Topping (1998) in her comments concerning a U.S. District court decision which found that standardized tests with well established psychological validation are reliable and valid predictors of performance.

Physical Fitness Testing

Physical ability assessment is seen as an integral part of evaluating a candidate's ability to perform in dangerous occupations such as firefighting and police work. Physical tests should also focus on traits which would indicate the potential employee will remain free from injury (Hogan, 1991). These tests often work to the disadvantage of women and should be carefully crafted to eliminate bias while maintaining validity (Anderson, 1994). Berger (1999) in her interview of Sports Medicine Specialist, Dr. James A. Peterson, notes that over 100 physiological differences exist between men and women which makes it nearly impossible to construct a test that is fair while yielding meaningful and applicable results. He further noted that while men are stronger, faster and more powerful; women have better balance, dexterity, flexibility and coordination.

A review of existing literature yielded two basic entry-level testing processes; fitness-based testing and task-based testing. Pletan (1981) discusses the merits of the more traditional fitness-based test which according to Dezelan (1997) can include such components as a treadmill test, a sit and reach flexibility test, and a 1.5 mile run. Pletan (1981) discussed the benefits of task-based tests which are often developed based upon a task analysis of the most strength-dependent fire fighting activities. Davis (1995) extols the virtues of his Combat Challenge test which involves such activities as a stair climb with high-rise pack, hose hoist, driving a steel I-beam with an 8-pound shot hammer five feet and a victim rescue.

The Coppel Texas Fire Department developed and implemented a combination fitness-based and task-based test (Appendix B) which meets the guidelines established by the 1964 and 1991 Civil Rights Act as well as the National Fire Protection Association's 1500 and 1582 standards. This program is comprised of nine components, each identifying parameters for both male and female participants and providing different performance levels based upon age. Godwin (1996) notes that not all of the components of this test meet criteria defined by the Americans with Disabilities Act (ADA).

The Frederick County Department of Fire/Rescue Firefighter Agility Test Operational Procedure (Appendix C) is an example of task-based testing. This procedure was developed after careful consideration of NFPA and ADA standards (Marsh, 1997). As with other task-based testing, flaws and the potential for bias exist. One such flaw is that these tests are an incomplete assessment of fitness (FEMA/USFA, 1993). Research conducted by Ravenell (1994) found that sprains, strains and other musculoskeletal injuries are the leading cause of temporary and permanent firefighter injury; however, the majority of task-based testing focus on strength and ignore flexibility measurements. Other criticisms of task-based testing include their lack of validation as an appropriate measurement of firefighter fitness (International Association of Firefighters, 1996) and that the timed nature of the event does not accurately portray typical fire ground operations (FEMA/USFA, 1993). Validity falls into three major categories; criterion-related validity, content validity and construct validity. Criterion validity is statistically proven through correlation analysis of the testing tool in question and the relationship to important elements of work behavior. Content validity represents the extent to which a selection tool samples skills and knowledge needed to perform a job. Construct validity represents the extent to which a selection tool measures a theoretical or psychological trait necessary for job

performance (Bohlander, Sherman, Snell, 1998). While many task-based tests claim validity, no validity studies were available to the researcher to verify such a claim.

Oral Board Interview Process

Interviews are an integral part of the hiring process and, according to research conducted by Maurer, McDaniel, Schmidt, and Wetzel (1994), usually the least valid. This phenomena occurs due to the amount of faith untrained interviewers place upon their own judgments. These judgments are based on subjectivity and individual bias concerning other people. Increasing the structure of the interview assists in removing some, but not all bias. Totally structured interviews involve standardized testing based on job analysis and a set of predetermined answers against which to measure candidate responses. This type of interview is endorsed by the EEOC. Many organizations; however, chose to utilize situational questions and panel interviewing techniques which allow interviewers to interject their own personal beliefs and feelings regarding the appropriateness of candidates.

Bohlander, Sherman and Snell (1998) suggest that employers use extreme caution when selecting interviewers. These individuals should receive special training and should be free of certain personality traits such as overtalkativeness, extreme opinions or biases. Additionally, they suggest diversifying the interview board as much as possible and to select individuals who associate with a variety of people from different cultures. Additionally, they opine that untrained interviewers have a tendency to select candidates that most closely mirror their opinions and interests without regard to actual qualification or abilities. Other research shows that positive bias exists for same-sex interview dyads (Dobbins, Farh, Lin, 1992). In other words, men select men, and women select women. Dobbins also notes that many interviewers resurrect instant barriers to applicants who they find unattractive or incompatible with perceived norms of the position sought.

Legal Consequences

Several laws exist which are designed to protect the rights of individuals and specifically to allow for employment practices which are free of discrimination. Despite these measures, many major and well known organizations such as AT&T, the City of New York, Shoney's Restaurants, Astra USA, and Dillard Department Stores have either openly or covertly violated equal employment laws (Bohlander, Sherman, Snell, 1998).

The Equal Employment Opportunity Commission (EEOC), in conjunction with three separate government agencies adopted Uniform Guidelines on Employee Selection Procedures which, essentially, includes recommendations that employers demonstrate selection procedures are valid in predicting or measuring performance in a particular job. This document defines discrimination as the use of selection procedures which create adverse impact on protected class individuals, unless the procedure has been validated in accordance with the Uniform Guidelines on Employee Selection Procedures (Dessler, 1997).

A recent Supreme Court ruling is of particular concern to agencies experiencing a lack of diversity in recruiting and hiring since it allows for punitive damages in cases where employers ignore their obligation under Civil Rights Law rather than the more restrictive standard of proving egregious violations (Biskupic, 1999). Lash (1999) further examines the implications of the ruling in that unless an entity can prove good faith efforts to comply with employment laws, the Court may find that they recklessly or maliciously violated Title VII.

Sex discrimination complaints filed with the EEOC rose from 17,815 in 1990 to 26,181 in 1995 (Bohlander, Sherman, Snell, 1998). Legal claims involving sex discrimination increased 34% and

dollar awards increased 38% for the same time period and continue to rise on an annual basis (Tallarigo, 1998).

PROCEDURES

Methods

A review of existing literature involving various sources was conducted to locate pertinent existing studies from within and beyond fire service equal opportunity issues. Sources included the Learning Resource Center (LRC) at the National Emergency Training Center (NETC), University of Phoenix (U of P) data base, University of Arizona Library, Online searches through the Equal Opportunity Commission and the Arizona Department of Economic Security, personal interviews and review of District recruitment, testing, and hiring records since 1989. Following extensive review of potentially applicable literature, appropriate references were arranged in an effort to identify major areas of discussion involving the research problem.

Statistics from the Arizona Department of Economic Security relating to Cochise County were utilized to perform a workforce utilization analysis. This analysis identifies if current recruiting and selection testing efforts are reflective of the external labor market and if females are actually underutilized in the Operations Division.

Personal interviews were conducted with Tucson Fire Department and Northwest Fire District in Tucson, Arizona, to determine what efforts were employed by both departments in increasing female candidate application rates and successful completion rates among female applicants.

Finally, results for each of the phases of the District's testing process were analyzed for adverse impact under the 4/5 or 80% rule. This analysis was segmented for pre and post 1995 hiring efforts. This delineation is significant since the District changed its testing procedures in July of 1995.

Limitations and Assumptions

The researcher encountered several limitations in the course of conducting research. These limitations include:

1. Time constraints imposed by the Executive Fire Officer Program.
2. Lack of access to search and query databases containing disability status of the civilian work force.
3. Unanticipated resistance to inquiries concerning the validity and reasoning behind the use of existing physical testing procedures.
4. Record retention policies which resulted in the destruction of District testing records prior to 1989.
5. Complete lack of recall or documentation regarding the existence of testing procedures prior to 1987.

The lack of search and query databases resulted in two potentially significant assumptions on the part of the researcher. The first assumption made was that the significantly disabled population in Cochise County for the eligible age range analyzed was equally distributed for male and female members of the population. The researcher defines significantly disabled as those members who are restricted to either sedentary work tasks or are prohibited from any type of employment based on the severity of the disability. The second assumption involved the population aging from 49 to 54 years of age. The researcher assumed that the sex distribution for this age group did not differ from the total age group which encompasses them.

RESULTS

Effective EEO/AA plans must consider the demographic composition of the available workforce surrounding the organization in question (Bohlander, Sherman, Snell, 1998). An important element of the research procedures was to conduct a work force analysis to form a base of reference for research questions 1 and 2.

Table 1 depicts the 1999 Civilian Labor Force for Cochise County. Table 2 depicts the 1999 Cochise County population census. Table 1 is distinguished from Table 2 by Table 1's exclusion of military work force and Table 2's inclusion of unemployable individuals (those on permanent disability benefits). Both provide statistical illustration of the available work force and the population served within Cochise County. Table 1 overstates the available female work force through its exclusion of the military work force. By excluding full-time military workers it excludes male members of the population who are actually considered for entry-level employment by the District. Recall that entry-level employment with the District is part-time in nature. Also note that two of the current members of the District's part-time work force are full-time military employees. Due to the large concentration of males in the military, this number is statistically significant. Table 1 also includes workers ages 16 through 19 in one indistinguishable work group. Minimum age requirement for applicants set forth in the job description for Firefighter (Appendix D) is 18 years of age. Using Table 2 as a reference, this number is also statistically significant. As noted earlier, the researcher assumed that permanently disabled individuals who were restricted to work in a sedentary capacity or restricted from work in total were evenly distributed between male and female members of the population. For these reasons Table 2 was utilized as the basis for available work force comparison. The work force analysis includes all individuals aged 18 through 54. Age 49 is the statutory cut-off for initial membership to the Arizona Public Safety Retirement System of which the District is a member; however, the work group containing

this age category is also indistinguishable. According to these figures, the available work force is composed of 43.2% female applicants and 56.8% male applicants. The District's employee census in Operations differs significantly in that only 2.8% are female and 97.2% are male.

Utilizing this information, the testing analysis (Table 3), the existing Firefighter Job Description (Appendix D) and the personal interviews conducted, the research questions can now be addressed:

1. **Is the District's firefighter recruitment and selection process discriminatory to female applicants?**

An analysis of applications for entry-level firefighter positions reveals that 42% of applications received from male firefighters either list existing Operations Division employees as a reference or indicate they were notified of an opening through an existing employee. Conversely, only 10% of female applicants indicate the same. The District utilizes the local newspaper as the only other form of applicant solicitation. As indicated in Table 3, only 8% of total applicants are female. This differs from the available work force demographic by 35.2%. This deficit demonstrates that current recruiting methods do not produce a demographically reflective number of female candidates.

Under the Civil Rights Act of 1991, an individual who believes they are the victim of unintentional hiring discrimination need only establish a case of prima facie discrimination. This demonstration need only extend to the fact that an employer's selection procedure created an adverse impact upon a protected class. Adverse impact "refers to the total employment process that results in a significantly higher percentage of a protected group in the candidate population being rejected for employment, placement, or promotion." (Dessler, 1997, p. 52). Disparate rejection rate involves the application of the 4/5 or 80% rule. Federal guidelines state that:

> A selection rate for any racial, ethnic or sex group which is less than 4/5 or 80% of the rate for the group with the highest rate will generally be regarded as evidence of adverse impact, while a greater than 4/5 rate will generally not be regarded as evidence of adverse impact (Beatty, Bernardin, and Jensin, 1980, p. 301).

Utilizing this legal analysis in conjunction with the testing information obtained from Table 3, the researcher was able to conclude that no adverse impact existed prior to 1995. Post 1995 testing efforts; however, demonstrate significant adverse impact to the female applicant class.

2. Are there any segments of the selection process that create an adverse impact upon female applicants?

Although an employer is not required to examine each phase of its employment process to identify adverse impact, the researcher chose to do so in an effort to develop specific recommendations for immediate improvement. Each of the post application processes (written, physical, and oral board) were examined to accurately identify potential discrimination.

Written

Statistics provided in Table 3 show that no adverse impact exists between male and female applicants and that the test meets the provisions of the four-fifths rule.

Current EMT certification or certification within one year of hire is a job requirement according to the Appendix D. This minimum standard is supported as a business necessity by District call statistics for Fiscal Year 98/99. This examination of call volume reveals that nearly 86% of all emergency calls for service are medical in nature. The District also provides emergency medical transport services to its customers. Failure to obtain certification within the allowed time period results in dismissal. To gain entry to an EMT training program, candidates must prove the ability to read at a minimum of the 9th

grade reading level. The Wonderlic Personnel Exam utilized as the written evaluation tool is a general knowledge exam which has been statistically validated as a reliable indicator of employee performance outcomes or criterion-related validity. The minimum passing score required is associated with general manual labor. The minimum passing score reflecting the ability to successfully graduate from high school is two points higher. This test meets the stricter court interpretation of representing the minimum required to successfully perform the duties of firefighter for the Fry Fire District.

Physical Fitness Testing

Prior to July 1, 1995, the District utilized a fitness evaluation tool similar to the Coppel (Appendix A) model. Table 3 reveals that results yielded from this test created no adverse impact upon female candidates. In fact, the female pass rate is identical to the male pass rate. Post 1995 physical testing utilized the Combat Challenge task-based evaluation tool. Information contained in Table 3 shows a marked adverse impact upon female candidates. It is important to note that no potential female candidate or incumbent female employee has completed the test successfully as provided for in the Fry Fire District Department Operating Guidelines contained in Appendix E.

Oral Board Evaluation

Results of the analysis contained in Table 3 illustrate that the District hired each of the seven female candidates who participated in the Oral Board segment of the hiring process for the period preceding July 1, 1995. Since participation in the Oral Board process is contingent upon successfully completing the Physical Fitness Testing process, no female candidates participated in the Oral Board for the post 1995 evaluation period. Therefore, no data are available to determine if the current Oral Board process creates adverse impact upon female candidates.

3. What are other fire service organizations doing to improve recruitment and selection of female applicants?

In an informal interview of Ed Neville, Assistant Chief of EMS for the City of Tucson, several strategies for facilitating an increase in successful female employee candidates were identified. Tucson Fire Department (TFD) works in conjunction with Pima Community College - East Campus (PCC-East) in its efforts to recruit female firefighters. PCC-East specializes in public safety education and offers degrees in Fire Sciences, Fire Administration, and Paramedicine. Existing female firefighters are utilized during career exhibition events in an effort to generate interest in fire service careers. In addition, TFD employs the use of gender specific recruiting materials and targets area high schools, community colleges, and universities for potential applicants. TFD has also modified its physical testing to allow the use of tools such as the Stokes Basket during the rescue dummy skill to compensate for the strength deficits of female candidates. Minor concessions such as providing appropriately fitted protective gear during testing have also benefited female candidates (E. Neville, personal communication, August 20, 1999).

Northwest Fire District developed a task-based testing process (Appendix F) which identifies core physical job functions and simulates them in a series of physical skills. According to Battalion Chief Matt Shobert of the Northwest Fire District (NW Fire), a team of Doctors specializing in Industrial Injuries and Industrial Physiology participated in the development of the process. The test requires a variety of physical characteristics including strength of upper and lower body, dexterity, coordination, balance, and endurance. There is no time limit for new hire testing and a time limit of 6 minutes 59 seconds for existing employees. Every existing female employee continues to complete the test within the specified time period and no potential female applicant has failed this segment. Shobert

was quick to note that many of the female candidates posses prior knowledge of the physical skills required to complete the test. (M. Shobert, personal communication, August 28, 1999).

Additional Findings

One of the most interesting findings of this research was that barriers to entry are not unique to the fire service, or even public safety in general. Any occupation that is traditionally or predominantly male presents significant barriers to female representation. Some examples are construction workers, electricians, dockworkers, plumbers, agricultural workers and many other blue collar working positions. Martin (1998) observed that gender discrimination in the fire service is qualitatively different than racial discrimination. Racial discrimination does exist; however, it does not pose the same barriers to entry. Barriers to further career development are an area of concern in the racial discrimination arena. Gender discrimination focuses on the fundamental right to even participate in a fire service career. Behind the rhetoric concerning qualifications and ability lies the fundamental challenge to the masculine identity of the word firefighter. This theory is further supported in research conducted by Gilbert and Stead (1999) as their findings lend support to the idea that jobs are perceived as either male or female and that these perceptions create barriers to entry. Research conducted by Lori L. Reid (1998) suggests that these threats and challenges may reach beyond the realm of simple biological, physiological, and cultural stereotypes. She found that gender discrimination results in devaluation of positions occupied primarily by women. Her research revealed that career fields occupied by primarily white male candidates tend to pay higher wages net of differences in skill, experience and working conditions. More disturbingly her research showed that a negative economic correlation existed to the percent of women introduced to an occupation and the average hourly wage. This negative correlation was not significant in her studies of minorities. Simply put, men may have a vested economic interest in keeping certain

occupations primarily male. For every 1% increase in the percent of white females introduced into a primarily male occupation, the hourly rate of pay for the men in that occupation decreases by about $0.01. Using these findings, male firefighters employed by the Fry Fire District could expect a $0.40 per hour decrease in pay should female firefighter employment reach the demographic workforce average. This equates to a loss of $1164.80 per year (based on existing shift schedule) per firefighter.

DISCUSSION

The Civil Rights Act of 1964, amended in 1972 by the Equal Employment Opportunity Act of 1972 and the Civil Rights Act of 1991, covers a wide range of employer organizations including State and local governments. As a political subdivision of the state employing more than 15 employees, the District is subject to the provisions of these employment laws. Labor market comparisons revealed a significant discrepancy between the available female work force and that which exists in the Operations Division. Analysis of the application process revealed that existing recruiting methods do not provide a reflective number of female applicants and that those who do apply fail to progress beyond the physical testing tool.

Discrimination in hiring practices is difficult to prove in most circumstances. Only 8% of EEOC cases involve charges of hiring discrimination; however, the EEOC finds the problem pervasive enough to employ undercover testers to expose further problems with screening processes (Wells, 1998).

The findings of this research show justification for a prima facie discrimination case involving female applicants for the position of firefighter within the Fry Fire District. The analysis of the existing hiring process contained in Table 3 identifies the Combat Challenge test as the component creating adverse impact to female candidates. According to Godwin, a reasonably correct physical standard should yield incumbent failure under two sets of narrowly defined circumstances “lack of preparation or

an underlying medical condition which may prove hazardous to the employee" (1996, p. 20). The incumbent female candidate for the District trained on a regular basis and possesses no underlying medical conditions prohibiting her successful completion of the job. The fact that she performs all aspects of her current job adequately and has received better than average performance reviews further lends to the argument that the current physical fitness testing standards are not indicative of successful job performance. Instead, the test measures desired characteristics in the form of strength and more specifically upper body strength which creates a physiological disadvantage to female candidates. In Lanning, et al. v. SEPTA (1999), the court prohibited employers from developing physical tests that screen for preferred characteristics requiring instead that screening involve minimum standards which possess a valid correlation with major job competencies. In this case a test utilized by the Philadelphia Transit authority required a cutoff score on a timed test that virtually excluded all female candidates.

The privately developed task-based testing tool utilized by the District has been challenged by many organizations including the IAFF (Manning, 1996). The District's process places restrictions on the methods a candidate may utilize in accomplishing certain tasks. The same restrictions exist in the program outlined in Appendix C. As noted by the Federal Emergency Management Agency (FEMA/USFA, 1993), female firefighters generally posses a lower center of gravity. While muscle mass and other anatomical differences create strength deficiencies in the upper body, many posses a great deal of strength in their lower bodies. The same can be said of shorter male candidates. If the purpose of an entry-level fitness test is to determine if a candidate is physically sound and capable of performing job duties, then restricting methodology serves no valid purpose beyond creating disparity.

In reviewing the processes utilized by the City of Tucson and Northwest Fire District, the researcher also noted that the weight of the rescue mannequin was significantly higher in the District's

test. The District utilizes a 175-pound mannequin in full turnout and SCBA gear. Northwest and Tucson utilize a 110-pound mannequin without SCBA or turnout gear. Appendix B utilizes a 117-pound mannequin. When questioned by the researcher those involved in the testing for the District could offer no scientific validation for utilizing a heavier rescue victim.

The District does require applicants to wear turnout gear during the entry-level physical testing exercise. Unlike the efforts of the City of Tucson and Northwest Fire District, the District does not make an effort to provide appropriately sized turnout gear to female applicants attempting the physical fitness evaluation tool. This also creates an obvious disadvantage.

Careful review of the District's firefighter job description, attached in Exhibit E, yields evidence that the Combat Challenge Test utilized searches for physical characteristics beyond the minimum required by the published job description. Further, these selected physical characteristics place female applicants at a physiological disadvantage. Finally, this task-based testing tool fails to evaluate the potential for a major cause of permanent disability within the profession (musculoskeletal injuries) which, coincidentally, is a characteristic for which female applicants are physiologically advantaged. The researcher successfully identified alternative evaluation tools which yielded suitable candidates without creating adverse impact.

RECOMMENDATIONS

The study revealed two major factors which contribute to the District's inability to hire suitable female candidates for the position of firefighter. These factors are a lack of emphasis on female recruiting and a task-based physical fitness testing process which creates a severe adverse impact on

female candidates. The District must develop a multi-faceted approach to successfully build the diversity profile of the organization.

The first component requires significant attention to increasing the number of female applicants. Recruiting efforts should utilize multiple strategies including gender specific recruitment literature. Utilizing the District's existing female firefighter as an ambassador to various youth and women's civic organizations to encourage female involvement and to provide a genuine female role model is another strategy that has proven successful to other organizations. The area's multiple EMT training programs are also an excellent arena for the recruitment of interested female candidates.

The second component requires the District to either replace or modify the Combat Challenge as its entry-level physical fitness tool. As suggested by the interviews conducted with successful female recruiters in other fire departments, such minor changes as the addition of practical tools and properly fitting gear can minimize the adverse impact of physical testing significantly. The District should also consider obtaining a rescue mannequin that weighs less in accordance with its own minimum standards stated within the job description of firefighter. Any modifications made should coincide with the concept of determining if an individual meets the minimum physical standards needed to perform as a firefighter and should be evaluated for effective outcomes utilizing the existing female employee as a test subject.

The third component requires the District to invest in serious diversity training so that existing employees will be supportive of efforts to increase the female composition of the Operations Division.

The final component requires District management to develop definitive goals concerning work place diversity and to monitor its processes and efforts to ensure goals are met over a specified time period.

The lack of representation by the female segment of the work force population creates a liability to the District. Should an applicant file suit claiming hiring bias, the District could not currently demonstrate anything remotely resembling a good faith effort to comply with laws concerning equal employment opportunity.

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Appendix A

FRY FIRE DISTRICT

ENTRY-LEVEL FIREFIGHTER SELECTION PROCESS

1. Advertise in local newspaper for a period of no less than 5 days.
2. Collect applications resulting from newspaper advertisement and walk-in applicants.
3. Send letter notifying applicants of written exam (usually two sessions on same date during regular workweek).
4. Administer written exam - minimum passing score 17 which coincides with an applicant who has the potential to successfully complete high school.
5. Orientation for combat challenge test.
6. Schedule physical screening and combat challenge test.
7. Administer combat challenge test - applicant must complete.
8. Required training - unpaid.
9. Combat challenge test in full turnout gear, with SCBA, must be completed within 5 minutes.
10. Oral Board.
11. Candidate selection.

Appendix B

COPPELL FIRE DEPARTMENT
DESCRIPTION OF PHYSICAL AGILITY TEST

You will be expected to report for your physical agility test at the time and place assigned. Dress comfortable in a work-out suit or sweat pants and shirt, and a good pair of jogging or tennis shoes. Before your test begins, you will have time for a series of warm-up exercises. The physical agility test consists of the individual events described below. You may want to practice before you take the actual test. This test is age and sex specific and is designed to meet the guidelines established by the 1964 and 1991 Civil Rights Act, the 1990 Americans with Disabilities Act, and the National Fire protection Association 1500 and 1582 standards.

1.5 Mile Run/Walk Test

You must complete the 1.5-mile run/walk examination in a given time depending on your age and sex. You are to begin on a given signal and not stop until you have completed the 1.5-mile distance. You will then slow your pace for three to five minutes to bring your heart rate down slowly (cool down period). If you have any medical problems during the course of this event, please notify the examiner immediately. This test is designed to measure MAZ VO2 in accordance with the Cooper Institute for Aerobic Research. Incumbents will accomplish this event through the annual medical physical treadmill test using the Maximum Bruce Protocol.

Age	Sex	Time
20-29	M	12:51 (minutes:seconds)
20-29	F	15:26 (minutes:seconds)
30-39	M	13:36 (minutes:seconds)
30-39	F	15:57 (minutes:seconds)
40-49	M	14:29 (minutes:seconds)
40-49	F	16:58 (minutes:seconds)
50-59	M	15:26 (minutes:seconds)
50-59	F	17:54 (minutes:seconds)

Sit-up Test

Assume a lying position on the floor with your knees bent, heels flat on the floor, and hands clasped behind your head with fingers interlaced. A firefighter will hold your feet against the floor. On a signal, you will complete as many sit-ups as you can within 60 seconds. A sit-up shall be counted as completed when you bring your elbows into contact with your knees and then return until the shoulder blades touch the floor. The successful number of sit-ups that must be achieved is based on age and sex requirements.

Age	Sex	1 Minute Sit-Ups
20-29	M	38 (minimum required)
20-29	F	32 (minimum required)
30-39	M	35 (minimum required)
30-39	F	25 (minimum required)
40-49	M	29 (minimum required)
40-49	F	20 (minimum required)
50-59	M	24 (minimum required)
50-59	F	14 (minimum required)

Flexibility Sit and Reach Test

Sit on the floor with your legs extended at right angles on a taped line against a box. Your heels should be placed about eight inches apart near the edge of the box. Slowly stretch your arms forward as far as possible with your hands together and fingers fully extended. Hold the position momentarily. The distance reached is measured by a yardstick connected to the box. Three tries will be allowed with the longest record (the distance preferred is based on your age and sex). No ballistic stretching will be allowed. This is a non-critical event for both incumbents and candidates.

Age	Sex	Reach Distance
20-29	M	16.5 in (1.5 in. beyond the box edge)
20-29	F	19.3 in (4.3 in. beyond the box edge)
30-39	M	15.5 in (0.5 in. beyond the box edge)
30-39	F	18.3 in (3.3 in. beyond the box edge)
40-49	M	14.3 in (0.7 in. before the box edge)
40-49	F	17.3 in (2.3 in. beyond the box edge)
50-59	M	13.3 in (1.7 in. before the box edge)
50-59	F	16.8 in (1.8 in. beyond the box edge)

Bodily Composition Test

This test measures body fat through skinfolds measurements in accordance with the procedures established by the institute for Aerobic Research. This test will be performed after a job offer has been made during the medical physical examination. It is a monitoring test only.

Rescue Tool Life and Carry

Lift from the ground and carry the hydraulic rescue tool (spreader) unit for a distance of 100 feet without stopping. The lift and carry must be continuous. You will be given proper instructions on how to lift an object from the ground prior to the event. This event is not timed and must be performed while wearing a turnout coat and Self-Contained Breathing Apparatus.

Aerial Ladder Climb/Hose Pull

The aerial ladder will be positioned at a 45-degree angle and extended to a height of 45 feet from the ground. You will climb the ladder in a continuous upward climbing motion to the top rung. When you reach the top rung of the ladder you will position yourself for a safe entrance into the platform area. You will be assisted in this operation by a firefighter currently staged in the platform. Once safe entrance has been established in the platform, you will prepare to perform the hose pull from the back of the platform. From this position, you will pull up a 50-foot section of rolled and coupled 2 ½ inch hose, by means of an attached rope, to the top of the platform. You will be required to wear a safety belt, helmet, and gloves while you are performing this event. The examiner will give a verbal command to lower the hose once the objective has been achieved. Upon receiving the command, you will lower the hose to the ground using the same rope. You must not let the rope slide through your hands or the hose fall to the ground. This event is not timed, but you must meet the objectives of the event as previously stated and be continuously in motion to successfully complete this event.

Balance Beam Walk

Stand on one end of a 3 ½-inch beam, 10 feet long. Walk the length of the beam carrying a rolled 50-foot section of 1 ½-inch hose, including attached couplings, without falling or stepping off the beam. This event is not time but will require a continuous motion effort to successfully complete the event. You will have two tries.

Bench Press

While lying on your back with your shoulders aligned under the handle bars of the bench press, you will lift the weight from its resting position, press it towards the ceiling until your arms are completely extended, then lower it back to the starting position. You will select a weight that can be successfully completed for warm-up and gradually increase the amount of weight that you can successfully press in one repetition until the maximum amount is successfully obtained (the successful weight lifted is based on a percentage of your body weight, age, and sex).

Appendix C

DEPARTMENT OF FIRE/RESCUE SERVICES
FREDERICK COUNTY, MARYLAND

FIREFIGHTER AGILITY TEST OPERATIONAL PROCEDURES
(revised 5/5/97)

This document outlines the procedures for administering the Firefighter Agility Test. These instructions must be strictly adhered to. Failure to follow these instructions could result in a misrepresentation of this exam.

Instructions shall be read to each examinee prior to each practice and testing session. The examinee will be given time to ask any questions they have regarding the procedures. Once testing has commenced, the examinee may not ask any questions or receive any additional information. At the end of the exam, the examinee may be given the total elapsed time they used. This time does not indicate and should not infer any determination as to the outcome of the exam.

INSTRUCTIONS
(to be read to examinees immediately prior to administration of the Physical Agility Test)

The Physical Agility Test is a validated test that consists of five tasks which must be completed within a ten minute time period. Each task must be completed prior to your moving on to the next task. You must perform each of these tasks while wearing your Firefighter protective clothing as follows:

Helmet
Nomex Hood
Turnout coat
Turnout pants
Knee boots
Gloves
30 minute air mask assembly (supplied by the County)

All clothing and equipment shall meet current National Fire Protection Association standards and must be approved by the evaluator. Your are not required to breathe from the air mask: however, it must be carried on your back with the face piece hanging from your neck.

The test will stop when one of the following occurs:
1) you successfully complete the test within the specified time limit;
2) you state the evaluator that you want to quit;
3) you fail any of the five tasks'
4) you fail to complete the test within the time limit;
5) the evaluator stops the test for safety reasons, such as inclement weather.

The evaluator will not tell you how to perform the tasks, but simply state what tasks are to be completed. You may not ask any questions during the test, nor will the evaluator provide any information during the test. At the end of the exam, the evaluator will give you your elapsed time. If a failure occurs, you have the option of being retested on another date after a practice session if you desire.

The tasks to be performed are as follows:

1. Ladder Extension - Upon the evaluator's command, you will begin at the starting line and proceed to the base of the fire escape. You will fully extend and lock the 35 foot extension ladder that is supported in a vertical position. You must pull the rope to extend the fly section of the ladder while standing in an upright position. You will use your upper body strength to complete this evolution. Your legs may be slightly bent for balance, but should not be used to assist with pulling the rope. You may be told by the evaluator to raise or lower the ladder when the ladder is fully extended to assist with locking the fly section. Once the ladder is fully extended and locked, you will lower the fly section upon the evaluator's command.

2. Hose Carry - You will immediately proceed to the 75-pound hose pack at the base of the Tower Building and carry the hose pack to the fourth floor landing of the Tower. Once you reach the fourth floor landing, you will place the hose pack in the designated are floor. You may carry the hose pack in any manner you wish providing that the pack remains off the ground. If you loose contact with the pack at any time during the carry, you will be disqualified.

3. Hose Pull - You will immediately proceed to the landing of the fourth floor fire escape. A rope runs over a hose roller on the railing and onto the ground and is attached to 50 feet of 2 and ½ inch hose and couplings weighing a total of 52 pounds. You must pull the rope until the hose touches the roller. While performing this task, you must remain within five feet of the hose roller. A line is marked on the floor to reflect the limit. You must use a hand over hand method for pulling the rope. You must also brace yourself against the railing with either foot to allow more stability. Once the rope has touched the roller and upon the evaluator's command, you must then lower the rope to the ground using the hand over hand method without allowing it to slip through your hands. Allowing the rope to slip through your hands is grounds for disqualification. You may use your foot to stand on the rope during rest periods if you wish.

4. Dummy Rescue - You will immediately proceed to the 117 pound dummy that is on the fourth floor of the tower Building. You will drag or carry the dummy down the interior stairs to the ground level. At the ground level, you must drag or carry the dummy to the designated point 40 feet from the Tower Building door. You must remain in contact with the dummy at all times. Failure to do so will result in disqualification.

5. Chopping - You will immediately proceed to the railroad tie located at the base of the Tower Building. You must strike the railroad time 30 times with an eight pound sledgehammer. To perform this task, you must stand in an upright position and strike the railroad tie forcefully with the head of the sledgehammer. The sledgehammer must go over the brim of your helmet with each strike. You must return to a standing position prior to each strike. Each strike must be performed with force. Allowing the sledgehammer to drop onto the railroad tie will not count as a strike. The elapsed time ends when you complete your 30^{th} strike.

If you are showing signs of extreme fatigue, the evaluator may ask you if your desire to quit. If you do wish to quit, you must state "I wish to quit." You will not be encouraged in any way by the evaluator to either quit or continue. If you wish to quit, you must sign the practice/test record sheet in the "comment space" that corresponds to the test which you are taking. The evaluator has the authority to stop the test at any time for safety reasons.

You must understand these instructions prior to participating in this test. Do you have any questions?

Appendix D

FRY FIRE DISTRICT

Sept. 30 1992 (Amended July 5, 1995)
Revised June 29, 1998

FIREFIGHTER

SUMMARY

controls and extinguishes fires, administers emergency medical care, protects life and property, and maintains equipment as an employee of the Fry Fire District by performing the following duties and additional duties as assigned:

Required to work twenty-four (24) hour shifts or forty (40) hour per week schedules as assigned; under the supervision of a fire district officer or acting officer.

May be required to perform the duties of Engineer;

Responds to fire, EMS and other emergency and non-emergency calls; Operates pumps, ladders, hose lines, nozzles, generators, saws, hydraulic tools, lights and various auxiliary equipment, depending on type of emergency, directs streams of water or chemicals onto fire, raises and climbs ladders, uses fire extinguishers, self contained breathing apparatus, axes, bars, hooks and other equipment;

Performs all fire ground tasks as directed including forcible entry, search and rescue, ventilation, fire extinguishment, salvage and overhaul operations;

Renders emergency medical care to the sick and injured; Transports the sick and injured to appropriate medical facilities;

Follows emergency medical treatment protocols, departmental rules and operating guidelines;

Maintains physical and mental state of readiness and ability to perform all duties;

Completes required reports accurately and in a timely manner;

Inspects buildings for fire hazards and compliance with fire prevention axioms;

Maintains apparatus, quarters, buildings, equipment, grounds, and hydrants;

Participates in drills, demonstrations, and courses in emergency medicine, hydraulics, pump operation and maintenance, and firefighting techniques. Attends training courses, and maintains competency through study, practice and hands on skills training;
Drives and operates firefighting, rescue and ambulance apparatus and equipment;

Maintains all required licenses and certifications.

This job description is not intended to be all inclusive and employee will also perform other reasonably related duties as assigned.

QUALIFICATIONS

To perform this job satisfactorily, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Knowledge of the principles, practices, methods and equipment used in modern firefighting and EMS operations.

Knowledge of emergency medical treatment protocols and guidelines as established by medical control and/or Fire District guidelines.

Knowledge of fire hazards and fire protection principles and techniques.

Ability to plan, organize and coordinate tasks performed by firefighters in various emergency and routine activities.

Ability to cooperate and work effectively with others.

Ability to communicate effectively orally and in writing.

Ability to use computer applications, word processing, spread sheets and data bases.

Ability to meet the physical requirements necessary to safely and effectively perform assigned duties.

Ability to think and act quickly and appropriately in emergency situations.

Ability to operate various firefighting, emergency medical and rescue equipment safely and effectively.

EDUCATION and/or EXPERIENCE

High school diploma or general education degree (GED), CPR instructor is required. ALS and/or BLS affiliate faculty, EMT Instructor, hazardous materials technician, Arizona Firefighter I and II, wildland firefighter, fire cause and origin determination certifications are desirable. Two years firefighting

experience with a fire district or municipality is desirable. Graduation from an accredited university or college with a degree in fire science or administration is also desirable.

LANGUAGE SKILLS

Ability to read and interpret documents such as safety rules, operating and maintenance instructions, and procedure manuals and guidelines of the Fire district. Ability to write routine reports and correspondence. Ability to speak effectively before groups of customers or employees of organizations.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply and divide in all units of measure, using whole numbers, common fractions and decimals. Ability to compute rate, ratio and percent and to draw and interpret bar graphs.

REASONING ABILITY

Ability to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Ability to interpret a variety of instructions furnished in written, oral, diagram or schedule form.

CERTIFICATIONS, LICENSES and REGISTRATIONS

Must possess and maintain a valid Arizona Driver's license. Must possess and maintain current Arizona Department of Health Services EMT certification.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodation may be made to enable individuals with disabilities to perform the essential functions of this job.

While performing the duties of this job, the employee is regularly required to talk or hear. The employee frequently is required to stand, walk, sit, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, and stoop, kneel, crouch or crawl. The employee must regularly lift and/or move more than 100 pounds. Specific vision, peripheral vision, depth perception and ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions of this job.

While performing the duties of this job, the employee is regularly exposed to moving mechanical parts, high precarious places, fumes or airborne particles, toxic or caustic chemicals, outside weather conditions, risk of electrical shock, explosives, risk of radiation, vibration and other potentially hazardous environments and conditions. The employee is occasionally exposed to wet and/or humid conditions. The noise level in the work environment is usually loud.

Appendix E

EXERPT FROM FRY FIRE DISTRICT DEPARTMENT OPERATING GUIDELINES

Section 37 Physical Fitness, Exercise Period, Combat Challenge

01 Physical Fitness: The District recognizes the importance of maintaining the physical fitness of its members. Physically fit members will be healthier, stronger and less likely sustain injuries to themselves or cause injury to others during performance of duties.

02 Health Maintenance: The District provides workout equipment at all fire stations for use by members on or off duty. The district has established hours during the duty schedule for members to exercise. Members may exercise at any time not scheduled for other duties (see Daily Schedule Section 33).

03 Combat Challenge: The On Target combat Challenge has been established as the standard which applicants and current members shall be evaluated in terms of physical fitness and employment suitability. The combat challenge standards shall apply to all suppression personnel employed on or after July 1, 1995. It has been established that all suppression personnel employed prior to July 1, 1995, must complete the combat challenge without any time limit for completion. Suppression personnel employed after July 1, 1995, must complete the combat test within the established 5-minute time limit. Al candidates and current employees shall be "medically screened" according to the standards set forth in the Combat Challenge procedures.

04 Failure: In the event a members does not pass the physical examination and or Combat Challenge he/she will be given a verbal warning and then given 30 days from the time of failure to prepare and retake the testing. During this 30-day period, the member will, along with the fitness coordinator, determine the areas of testing the member will need to improve upon. A workout program will then be designed specifically for that member to improve in the deficient areas. If the member fails the testing on the second attempt, they will be given 60 days to continue their exercise program and area advised to seek consultation from a licensed physician. If the member fails the testing after the 60-day exercise program, they will be placed on probation for a period of 6 months. During that time the member will continue to work with his/her physician and the department's fitness coordinator.

At the end of that 6 months, if the member fails the testing he/she will receive disciplinary actions according to Section 29 sub-sections 05 and 06.

*New Reserve/Volunteer candidates must complete the combat challenge in order to be accepted into the Reserve training program and yearly thereafter (All other requirements must be met).
*Line suppression personnel will be evaluated on an annual basis. Line suppression personnel must complete the Combat Challenge annually.

Appendix F

Excerpt from Northwest Fire District

Operations Manual - Health and Wellness Policy

17.2.11 Rules Governing the PAT

17.2.11.1 Description of the Physical Ability Test

A. Prior to taking the PAT, personnel/crews shall be allowed to walk through the course with an evaluator who will be present during the testing process. This walk-through is designed to familiarize participants with the PAT, describe actions subject to penalties, and answer any questions. Participants comfortable with the sequence of events and the penalties may forego this walk-through.

B. Prior to taking the PAT and at one-minute post completion of the PAT, individuals shall have their vital signs recorded. For the sole purpose of trend analysis, individuals shall be asked to volunteer the following information to the PAT administrator:

1. height
2. weight
3. gender
4. age

The PAT administrators shall consider this information confidential. The purpose of this information is to run statistical analysis to describe the current fitness trends within the District, allow for comparisons with other PAT's, and provide insight into training or fitness needs within the District.

17.2.11.2 PAT Sequence of Events.

In an attempt to keep the course clear, only the PAT administrator shall be allowed to walk the course with the participant. Individuals may provide encouragement and support to participants at different events, but not walk to the events with the participant.

A. START. Personnel shall begin the PAT with PPE, as described in 17.2.8. Participants shall begin the PAT in the start box. Time will begin when the participant leaves the box. The participant shall walk to the rescue dummy.

B. VICTIM CARRY/DRAG. The participant shall wrap their arms around the rescue dummy and drag or carry the rescue dummy back to the start box (94'), while walking backwards. Once back in the start box, the participant shall drop the rescue dummy.

C. Next, the participant shall walk back to the stripe marking the original location of the rescue dummy, past the stripe with both feet and turn around.

D. EQUIPMENT LIFT. Walking next to the equipment lift, the participant shall raise the 45#, 65#, and 75# weights (35") in succession and under control. The weights must be placed in the marked boxes on the platform. Once all the weights have been raised the weights shall be lowered in reverse order, again under control and without dropping the weights.

E. EQUIPMENT CARRY. The participant shall then walk through the bay to the two jugs, turn-around and carry the jugs through the set of cones labeled "equipment drop" (176').

F. ROOF LADDER CARRY. After turning-around, the participant shall again walk through the bay to the roof ladder event. The participant shall remove the ladder from the initial left side holders and carry the ladder to the right side holders and place it in that location.

G. EXTENSION LADDER RAISE. The participant shall continue around the bays into the marked box at the extension ladder. The ladder shall be raised using the halyard in a hand-over-hand method until the colored rung on the fly is raised to the colored rung on the bed section. Then the participant shall lower the ladder under control in a hand-over-hand method until the fly section is back in its resting position. The participant must stay in the marked box at all times.

H. MALL LOAD EXTENSION. Next the participant shall walk to the mall load. Event personnel shall place the mall load to the height of the participant's shoulder. Once raised, the mall load shall be kept steady and not moved until the participant takes control of it. The participant shall position himself/herself in his/her desired position under the mall load, take control of the mall load and begin advancement of the mall load to the cones labeled "mall load." During this event the participant may run, in order to develop the necessary inertia to advance the mall load to the cones. Once past the cones, the participant shall drop the mall load.

I. VENTILATION EVENT. Proceeding to the vent prop, the participant shall mount the prop and grab the sledgehammer and drive the sled with continuous blows a distance of three feet. The PAT administrator shall tell the participant when the sled has been driven the required distance.

J. RESCUE TOOL MANIPULATION. After dismounting the vent prop, the participant shall walk to the rescue tool-handling event. The participant shall put the tip of the tool in each of the cups n the following progression: bottom, middle, top, middle, and bottom. The participant shall then replace the tool in the marked box, under control and without dropping it. Time ends when the rescue tool has been replaced in the marked box.

17.2.12 Penalties Assessed to the Participant's Time During the PAT

In order to provide a safe and consistent testing process, time penalties and/or disqualification may be assessed to a participant. Penalties shall be assessed when an action during an event is considered unsafe, performed improperly, or performed with disregard for the care of the equipment. A disqualification shall be assessed when participants' action(s) circumvent the vents or the purpose of the PAT.

The following describe the actions that are acceptable or those that may result in penalty or disqualification.

A. Participants shall receive one warning when, in the opinion of a qualified administrator, the participant is running in an event in which running is not allowed. After one warning, running is continued, the participant shall be disqualified. Running is defined as both fee being off the round at any time during a stride.

B. Participants shall receive one warning for stopping to rest anywhere on the course other than the designated rest area. If the participant fails to resume with the PAT after this warning or stops again outside of the rest zone, the participant shall be disqualified.

C. During the simulated victim rescue, participants shall be disqualified without warning if they turn-around and carry/drag the simulated victim in any direction other than backwards. No penalty or disqualification shall be assessed if the simulated victim is dropped and needs to be picked up again. Participants may stop and reposition their hold on the simulated victim without penalty, however, stops to rest are not permitted.

D. If the participant fails to cross the line indicating the original position of the simulated victim with both feet, he/she shall be instructed by the administrator to reattempt crossing the line. No penalty shall be assessed for the first reattempt. However, a second failure to cross the line with both feet shall result in disqualification.

E. When the participant reaches the equipment lift event, a penalty of ten second shall be assessed each time one of the simulated equipment pieces is thrown, dropped, or is out of control.

F. During the equipment carry, no penalties shall be assessed the first time the simulated equipment is set down to re-grip the equipment. However, if the equipment has to be set down more than one time for each hand the participant shall be disqualified. The participant shall not be permitted to stop in the rest box while carrying the equipment to the cones.

G. When carrying the roof ladder from its original position to its final position, a penalty of ten seconds per incident of hitting the wall or ground shall result. Ladders that cannot be kept under control constitute a safety concern.

H. There are no penalties assessed when raising the extension ladder. However, a hand-over-hand method must be used. When lowering the fly section, a ten-second penalty shall be assessed each time the fly drops a distance of three rungs. An additional ten-second penalty shall be assessed if the fly is allowed to drop into its resting position.

I. No penalties shall be assessed when a participant stops to re-adjust the mall load. Participants are required to advance the mall load, and as long as there is ANY forward motion the administrator shall allow the participant to continue. However, if the stopping occurs because the participant can no longer advance the mall load the participant shall be disqualified.

J. There are no penalties assessed during the simulated ventilation event, although disqualification can occur when the participant stops striking the vent prop. When five seconds have elapsed without the participant producing a blow to the prop, the administrator shall give the first warning. If a blow does not immediately follow the warning, the participant shall be disqualified. If another five seconds elapses without a blow the participant shall be warned a second time. Again a blow must immediately follow this warning, or the participant shall be disqualified. If another five-second period elapsed without the participant striking the sled the participant shall be disqualified.

17.2.14 Utilizing the Resting Zone

After the PAT has begun, the starting box becomes a 15-second rest zone. This zone can be utilized anytime the participant is going from one event to another. The individual must complete the event before using the resting zone. The individual shall not be allowed to stop during an event, use the rest zone, and then return to the event. Individuals leaving an event before it has been completed shall be disqualified. The participant shall be allowed to use the 15-second resting zone a maximum of two times. Personnel may continue on to the next event prior to the 15 seconds completely elapsing. The two 15-second breaks can not be taken consecutively; at least one event must be completed after utilizing a 15-second break and before another 15-second break is utilized. When a 15-second break is being utilized, the PAT administrator shall call out the time used at the five-second mark, ten-second mark, and shall continue with the count for 11^{th}, 12^{th}, 13^{th}, 14^{th}, and 15^{th} seconds. The participant must move towards the next event upon the calling out of the 15^{th} second. Failure to move immediately shall result in disqualification.

Table 1

CIVILIAN LABOR FORCE PROJECTIONS 1999
COCHISE COUNTY

	CIVILIAN LABOR FORCE		EMPLOYED		UNEMPLOYED		UNEMPLOYMENT RATE	
	TOTAL	FEMALE	TOTAL	FEMALE	TOTAL	FEMALE	TOTAL	FEMALE
ALL PERSONS								
All Ages	40,356	18,689	37,317	17,319	3,039	1,370	7.5%	7.3%
16-19	2,718	1,342	2,153	1,120	565	223	20.8%	16.6%
20-24	3,921	1,837	3,267	1,543	654	294	16.7%	16.0%
25-54	28,113	13,244	26,543	12,471	1,570	773	5.6%	5.8%
55-64	4,326	1,829	4,145	1,773	180	57	4.2%	3.1%
65+	1,279	436	1,209	413	70	23	5.4%	5.3%

Source: Department of Economic Security, Research Administration, October 1998 (Reproduced from Source Document)

Table 2

POPULATION PROJECTIONS - 1999
COCHISE COUNTY

	ALL PERSONS		
	TOTAL	FEMALE	MALE
All Ages	120,175	58,961	61,214
Under 14	26,187	12,683	13,504
14-15	3,801	1,865	1,936
16-17	3,947	1,808	2,138
18-19	3,622	1,544	2,068
20-21	3,347	1,497	1,850
22-54	52,773	25,450	27,323
55-64	11,165	5,797	5,368
65+	15,333	8,308	7,025

Source: Department of Economic Security, Research Administration, October, 1998 (Reproduced from Source Document)

Table 3

FRY FIRE DISTRICT
TESTING RESULTS JANUARY 1989- JUNE 1995

Phase	# total applications	#total male	# pass male	# fail male	% pass male	#total female	# pass female	# fail female	% pass female	80% male pass rate
Written	178	161	93	68	58%	17	10	7	59%	46.4%
Physical	103	93	65	28	70%	10	7	3	70%	56.0%
Oral Board	72	65	34	31	52%	7	7	0	100%	41.6%

Note: for purposes of this comparison, failing the Oral Board equates to not being hired. No shows for any phase are also considered failure.

FRY FIRE DISTRICT
TESTING RESULTS JULY 1995 THROUGH SEPTEMBER 1999

Phase	# total Applications	#total male	# pass male	# fail male	% pass male	#total female	# pass female	# fail female	% pass female	80% male pass rate
Written	152	126	62	64	49%	26	15	11	58%	39.2%
Physical	77	62	39	23	63%	15	0	15	0%	50.4%
Oral Board	39	39	18	21	46%	0	0	0	0%	36.8%

Note: for purposes of this comparison, failing the Oral Board equates to not being hired. No shows for any phase are also considered failures.